argued limitation of the sequential transmission of the first and second signals is not in the claim. Claim 1 ... does not include the limitation of the sequence in which the signals are transmitted to the receiver."

While the Applicant believes that the limitation of the sequential transmission of signals was implicit in the claims as previously presented, the Applicant has now amended the claims to make the limitation explicit, i.e., the digital processor outputs an "enable" signal if the demodulated first digital code is received first in sequence and matches the stored first digital code, and an "actuate" signal if the demodulated second digital code is received next in sequence after the first digital code and matches the stored second digital code, and the memory latch device maintains the primary switch in an "on" condition when it receives the "enable" signal and then the secondary switch is an "on" condition when it receives the "actuate" signal from the digital processor.

The amended claims with this explicit limitation are now believed to define the invention patentably over the cited prior art. The Lay Patent clearly states, as in column 2, lines 45 – 51, "the solenoid can only be actuated when: (a) receiver circuit 26 is receiving a signal corresponding to signal 34 and, (b) at the same time, receiver circuit 28 is receiving a signal corresponding to signal 36. Thus, both switches A and B of the Lay transmitter must be turned on in order for the two signals to be generated simultaneously and transmitted to the respective receiver circuits 26 and 28. In contrast, the invention employs non-simultaneous enabling and actuation signals which can be communicated sequentially over a single transmitter, receiver, and radio channel. The enabling signal must precede the actuating signal, thereby allowing the device to be set to an "armed" state pending the sending of the second "firing" signal. This allows the system to be less expensive, as fewer transmitter and receiver circuits are required. The operator is not required to press two transmitter buttons each time a device is to be actuated. The enable signal need only be transmitted once before proceeding with the transmissions of successive actuating signals. This is important when a large quantity of actuations are required in rapid succession, as in a public fireworks display. Such advantages are not available when simultaneous enable and actuate signals are required to be sent as taught by Lay. The Marcoux Patent also does not teach the sequential enable-actuate signal transmission.

Apparatus Claim 18 directed to the receiver side of the system, and method Claim 20 are similarly amended as Claim 1. The terminology in all claims is also amended to delete the redundant term "sequence" in "first and second digital code sequence" so as to avoid confusion with the "sequence" of transmitting the "enable" and the "actuate" signals. No new matter is deemed to have been added by these amendments. The amendments to the main Claims 1, 18, and 20 were amended to address the issue raised by the Examiner of the lack of explicit recitation of the signal sending sequence, and are not deemed to raise any new issues on a final rejection or require further examination to be conducted.

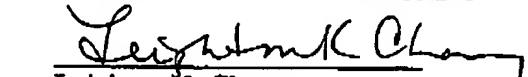
In summary, Claims 1-20 as amended are now deemed to be patentably distinct over the cited prior art and in condition for allowance, and it is requested that a Notice of Allowance be issued therefor upon reconsideration.

This response is filed with a certificate of facsimile transmission within two months of the date of the final action, so that any extension fee for response to a further advisory action later than 3 months from the initial date of the action would be calculated from the date of the advisory action.

CERTIFICATE OF FACSIMILE TRANSMISSION:

The undersigned certifies that the foregoing is being sent on August 5, 2004, by facsimile transmission to Examiner Vernal Brown, Group 2635, Fax #: (703)-872-9306.

Respectfully submitted,
ATTORNEYS FOR APPLICANT



Leighton K. Chong
USPTO Reg. No. 27,621
OSTRAGER CHONG & FLAHERTY (HAWAII)
841 Bishop Street, Suite 1200
Honolulu, HI 96813-3908
Tel: (808) 792-4841
(HST 6 hrs < EST)

AMENDMENT OF CLAIMS

(Claim 1, currently amended)

1. A wireless digital launch or firing system comprising:

(a) a transmitter unit having a first transmitter element for generating a first radio-frequency (RF) signal representing a first digital code [sequence], and a second transmitter element for generating a second RF signal representing a second digital code [sequence] which is different from that of the first RF signal;

(b) a receiver unit having: (i) a receiver circuit for receiving the RF signals transmitted by the transmitter unit and demodulating them into respective digital codes [sequences]; (ii) a digital processor for receiving the demodulated digital codes [sequences] from the receiver circuit and comparing them to stored first and second digital codes [sequences], said digital processor outputting an "enable" signal if the demodulated first digital code [sequence] is received first in sequence and matches the stored first digital code [sequence], and an "actuate" signal if the demodulated second digital code [sequence] is received next in sequence after the first digital code and matches the stored second digital code [sequence]; (iii) a memory latch device which maintains a normally-off primary switch in an "on" condition once the memory latch device receives the "enable" signal from the digital processor; and (iv) a normally-off secondary switch which is set to an "on" condition when it receives the "actuate" signal from the digital processor,

wherein, when both said primary and secondary switches are in the "on" condition, an electrical output is provided to actuate a launch or firing device.

(Claim 2, original)

2. A system according to Claim 1, wherein the RF signals transmitted by the transmitter are in pulse code form and modulated on a single frequency.

(Claim 3, original)

3. A system according to Claim 1, wherein the RF signal represents digital code sequences having a first plurality of bits which are predetermined and stored in the transmitter and receiver units.

(Claim 4, original)

4. A system according to Claim 2, wherein the digital code sequences have a second plurality of bits which are determined by user selection.

(Claim 5, original)

5. A system according to Claim 2, wherein the digital code sequences have one bit determined by activation of the first transmitter element and another bit determined by activation of the second transmitter element.

(Claim 6, original)

6. A system according to Claim 1, wherein the transmitter unit includes a digital encoder, the first transmitter element as a primary switch which provides one input to the digital encoder, and the second transmitter element as a secondary switch which provides another input to the digital encoder.

(Claim 7, original)

7. A system according to Claim 6, wherein the first transmitter element is a first button switch which provides a one-bit input to the digital encoder when depressed, and the second transmitter element is a second button switch which provides another one-bit input to the digital encoder when depressed.

(Claim 8, original)

8. A system according to Claim 2, wherein the receiver circuit demodulates the single-frequency pulse code signals and provides the demodulated code signals to a digital decoder which compares them with stored digital code sequences.

(Claim 9, original)

9. A system according to Claim 8, wherein the demodulated and stored digital code sequences have a first plurality of bits which are predetermined and stored in the transmitter and receiver units.

(Claim 10, original)

10. A system according to Claim 9, wherein the digital code sequences have a second plurality of bits which are determined by user selection.

(Claim 11, original)

11. A system according to Claim 9, wherein the digital code sequences have one bit determined by activation of the first transmitter element and another bit determined by activation of the second transmitter element.

(Claim 12, original)

12. A system according to Claim 10, wherein said second plurality of bits is determined by user setting of a selectable position switch which supplies bits based on the selected position for the digital code sequences.

(Claim 13, original)

13. A system according to Claim 1, wherein said memory latch device provides an indefinite "enable" period.

(Claim 14, original)

14. A system according to Claim 1, wherein said memory latch device provides a timed "enable" period.

(Claim 15, original)

15. A system according to Claim 1, wherein the receiver unit includes an external warning light to indicate that the primary switch has been closed to set the receiver unit in the "enable" condition.

(Claim 16, original)

16. A system according to Claim 1, further comprising a sequencer module for providing a plurality of outputs in sequence for actuating a plurality of launch or firing devices,

said sequencer module receiving an electrical output from said system as an "actuate" input signal to provide one of the plurality of sequencer outputs.

(Claim 17, original)

17. A system according to Claim 16, wherein said sequencer module includes as a last one of its plurality of outputs an "enable" output signal which is provided as an "enable" input signal to enable actuation of a next sequencer module connected to said first-described sequencer module, and said next sequencer module receiving an electrical output from said system as an "actuate" input signal to provide one of the plurality of sequencer outputs.

(Claim 18, currently amended)

18. A wireless digital launch or firing device comprising:

(a) a receiver circuit for receiving a first radio-frequency (RF) signal representing a first digital code [sequence], a second RF signal representing a second digital code [sequence] which is different from that of the first RF signal, and demodulating them into respective digital codes [sequences];

(b) a digital processor for receiving the demodulated digital codes [sequences] from the receiver circuit and comparing them to stored first and second digital codes [sequences], said digital processor outputting an "enable" signal if the demodulated first digital code [sequence] is received first in sequence and matches the stored first digital code [sequence], and an "actuate" signal if the demodulated second digital code [sequence] is received next in sequence after the first digital code and matches the stored second digital code [sequence];

(c) a memory latch device which maintains a normally-off primary switch in an "on" condition once the memory latch device receives the "enable" signal from the digital processor; and

(d) a normally-off secondary switch which is set to an "on" condition when it receives the "actuate" signal from the digital processor,

wherein, when both said primary and secondary switches are in the "on" condition, an electrical output is provided to actuate a launch or firing device.

(Claim 19, original)

19. A device according to Claim 18, further comprising a sequencer module for providing a plurality of outputs in sequence for actuating a plurality of launch or firing devices, said sequencer module receiving an electrical output from said device as an "actuate" input signal to provide one of the plurality of sequencer outputs.

(Claim 20, currently amended)

20. A method of wireless digital launching or firing comprising:

(a) receiving a first radio-frequency (RF) signal representing a first digital code [sequence], a second RF signal representing a second digital code [sequence] which is different from that of the first RF signal, and demodulating them into respective digital codes [sequences];

(b) receiving the demodulated digital codes [sequences] and comparing them to stored first and second digital codes [sequences], and outputting an "enable" signal if the demodulated first digital code [sequence] is received first in sequence and matches the stored first digital code sequence, and an "actuate" signal if the demodulated second digital code [sequence] is received next in sequence after the first digital code and matches the stored second digital code sequence;

(c) maintaining a normally-off primary switch in an "on" condition once the "enable" signal is output; and

(d) setting a normally-off secondary switch to an "on" condition when the "actuate" signal is output,

(e) providing an electrical output to actuate a launch or firing device when both said primary and secondary switches are in the "on" condition.